

CLAIMS

FI 5 1 An automatic device for trimming and cutting at right angles paper and other graphic and photographic substrates (1) with series of images (10) or "copies" printed thereon and marked by marks (M), comprising at least a pair of rollers (2) for feeding the substrate, a first motor (3) for the driving thereof, a cutting assembly (7), a second motor (9) for driving the latter to cut, a third motor (5) for bringing from time to time into relative alignment said cutting assembly (7) and one of said marks (M), a reading system suitable to detect a boundary mark (M) between the copies, and a microprocessor for processing the signal from said reading system and controlling said third motor (5), characterized in that each mark (M) consists of a preset sequence, stored in said microprocessor, of white and black lines extending at least along a whole edge of each of said images (10) oriented at right angles to the feed direction of the substrate, and in that said reading system consists of a pair of optical sensors (4, 4') located at a distance therebetween smaller than the width of the substrate.

20 2. A device according to claim 1, wherein said cutting assembly (7) is pivotally mounted at a point (8) so as to rotate angularly under the action of said third motor (5) to which it is connected at one end in order to get into alignment with said mark (M), said pivoting point (8) being provided at a central area of the cutting assembly or at the end opposite to the end connected to the motor (5).

25 3. A device according to claim 1, wherein said pair of rollers (2) is pivoted so as to rotate angularly under the action of said third motor (5) in order to take said mark (M) into alignment with said cutting assembly (7) which is fixedly mounted.

4. A device according to claim 1, wherein the distance between the two optical sensors (4, 4') is equal to about 1/10 of the maximum width of the substrate (1) allowed by the cutting width.

5. A device according to claim 1, wherein the measuring of each white or black line forming said mark (M) is carried out with a precision of 0.05 mm.

30 6. A device according to claim 1, wherein the cutting assembly (7) receives a signal of consent to the cutting only upon recognition of the mark (M) by both optical sensors (4, 4').

35 7. A device according to claim 1, wherein the feed of the substrate (1) by the rollers (2) takes place without any guide or reference, thus being suitable to perform the cutting in two mutually orthogonal directions upon rotation of the substrate (1) through 90°.

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substrate

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8. A device according to claim 1, wherein the cutting assembly comprises two blades parallel to each other at a distance corresponding to the total size of the mark (M) in the substrate feed direction, whereby the mark is completely removed by cutting.

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